



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,373	09/20/2001	Dominick G. More	102014-102	7864
34704	7590	01/28/2004	EXAMINER	
BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510			LUGO, CARLOS	
			ART UNIT	PAPER NUMBER
			3677	

DATE MAILED: 01/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/937,373	MORE ET AL.
Examiner	Art Unit	
Carlos Lugo	3677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

Disposition of Claims

4) Claim(s) 22-42 is/are pending in the application.
4a) Of the above claim(s) 1-21 is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 22-42 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 22 March 1999 is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) The translation of the foreign language provisional application has been received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) Interview Summary (PTO-413) Paper No(s). _____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____ .

DETAILED ACTION

1. This Office action is in response to applicant's amendment filed on November 26, 2003.

Claim Objections

2. Claims 22-25 are objected to because of the following informalities:
 - Claim 22 Line 5, add --metallic-- between the words "inner" and "member".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 22 and 25 are rejected** under 35 U.S.C. 102(b) as being anticipated by US Pat No 3,272,521 to McNenny.

Regarding claim 22, McNenny discloses an annular seal (10) comprising an outer member (16 and 17), having a generally c-shaped and open radially outward, and an inner member (12 and 13) nested within the outer member and also having a generally c-shaped and open radially outward.

The inner member has a wall thickness effective to maintain the outer member in engagement with first and second flanges (Figure 1) in the absence of a spring nested inside the inner member.

The longitudinal radial cross section of the inner member has a central arcuate portion and a pair of distal straight portions extending radially outward from opposite ends of the arcuate portion (Figure 2).

As to claim 25, the fact that the seal is effective to provide a leakage rate of no more than about 4×10^{-12} cm³/s-mm, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the claimed quantitative value, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

5. **Claims 22,23 and 25 are rejected** under 35 U.S.C. 102(b) as being anticipated by FR 610,973 to Barbarou.

Regarding claim 22, Barbarou discloses an annular seal (10) comprising an outer member (A), having a generally c-shaped and open radially outward, and an inner member (B) nested within the outer member and also having a generally c-shaped and open radially outward.

The inner member has a wall thickness effective to maintain the outer member in engagement with first and second flanges (Figure 2) in the absence of a spring nested inside the inner member.

The longitudinal radial cross section of the inner member has a central arcuate portion and a pair of distal straight portions extending radially outward from opposite ends of the arcuate portion (Figure 2).

As to claim 23, Barbarou discloses that the inner member having a full plating of a copper-base material (Lines 33-39).

As to claim 25, the fact that the seal is effective to provide a leakage rate of no more than about 4×10^{-12} cm³/s-mm, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the claimed quantitative value, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

6. Claims 26,27,29-33 and 35-37 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat No 3,188,100 to Delgado.

Regarding claims 26,29,30,32,35 and 36, Delgado discloses an annular seal (10) comprising an outer member (12,13 and 14), having a generally c-shaped and open radially outward, and an inner member (11) nested within the outer member and also having a generally c-shaped and open radially outward. The outer member has a pair of oppositely directed, longitudinally outward-projecting ridges (17 and 18).

The inner member has a wall thickness effective to maintain the outer member in engagement with first and second flanges (Figure 2) in the absence of a spring nested inside the inner member.

As to claims 27,33 and 37, Delgado illustrates that the inner metallic annular member has a characteristic thickness of between about 2 and 4 times a characteristic thickness of the outer metallic annular member (Figure 2).

As to claim 31, Delgado illustrates that the outer metallic annular member is thicker along the ridges.

7. **Claims 35 and 38 are rejected** under 35 U.S.C. 102(b) as being anticipated by US Pat No 4,561,662 to de Villepoix et al (Villepoix).

Regarding claim 35, Villepoix discloses a seal comprising an outer metallic annular member (16), having a generally c-shaped longitudinal radial cross section, and an inner metallic annular member (14), also having a generally c-shaped longitudinal radial cross section.

The outer metallic annular member has a pair of oppositely directed, longitudinally outward projecting ridges (20) for deformable engaging the pair of opposing flanges. Villepoix illustrates that the outer metallic annular member is thicker along the ridges.

As to claim 38, Villepoix discloses that the inner member is formed of a nickel alloy and the outer member is formed of an aluminum material or copper (Col. 1 Lines 31-35).

8. **Claims 35 and 37 are rejected** under 35 U.S.C. 102(b) as being anticipated by US Pat No 5,022,663 to Fages et al (Fages).

Regarding claim 35, Fages discloses a seal comprising an outer metallic annular member (20), having a generally c-shaped longitudinal radial cross section, and an inner metallic annular member (14), also having a generally c-shaped longitudinal radial cross section.

The outer metallic annular member has a pair of oppositely directed, longitudinally outward projecting ridges (18) for deformable engaging the pair of opposing flanges. Fages illustrates that the outer metallic annular member is thicker along the ridges.

As to claim 37, Fages illustrates that the inner metallic annular member has a characteristic thickness of between about 2 and 4 times a characteristic thickness of the outer metallic annular member (Figure 1).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claims 22,23 and 25 are rejected** under 35 U.S.C. 103(a) as being unpatentable over US Pat No 3,188,100 to Delgado in view of FR No 610,973 to Barbarou.

Regarding claim 22, Delgado fails to disclose that the longitudinal radial cross section of the inner member has a central arcuate portion and a pair of distal straight portions extending radially outward from opposite ends of the arcuate portion.

Barbarou teaches that is known in the art to either have an inner member with a central arcuate portion and arcuate distal ends (Figure 3) or to have a central arcuate portion with a pair of distal straight portions extending radially outward from opposite ends of the arcuate portion (Figure 2).

A change in the shape of a prior art device is a design consideration within the level of skill of one skilled in the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have an inner member, as taught by Barbarou, into a device as described by Delgado, because it is considered as a change in the shape of a prior art.

As to claim 23, Delgado fails to disclose that the inner member having a full plating of a copper-base material. Delgado discloses that is made of stainless steel.

Barbarou teaches that is known in the art to have the inner member having a full plating of a copper-base material (Lines 33-39).

The selection of a known material based upon its suitability for the intended use is a design consideration within the level of skill of one skilled in the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have an inner member, as taught by Barbarou, into a device as described by Delgado, in order to use the different material characteristics to improve the seal.

As to claim 25, the fact that the seal is effective to provide a leakage rate of no more than about 4×10^{-12} $\text{cm}^3/\text{s-mm}$, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the claimed quantitative value, since it has been held that discovering an optimum value of a

result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

11. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 3,272,521 to McNenny in view of FR Pat No 610,973 to Barbarou.

McNenny fails to disclose that the inner member has a full plating of a copper-base material.

Barbarou teaches that is known in the art to have a seal with the inner member having a full plating of a copper-base material (Lines 33-39).

The selection of a known material based upon its suitability for the intended use is a design consideration within the level of skill of one skilled in the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the same materials, as taught by Barbarou, into a seal as described by McNenny, in order to use the different material characteristics to improve the seal.

12. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 3,272,521 to McNenny in view of US Pat No 4,561,662 to Villepoix et al (Villepoix).

McNenny fails to disclose that the inner member is formed of a nickel alloy and the outer member is formed of an aluminum material or copper. McNenny discloses that they are made of metal.

Villepoix teaches that is known in the art to have a seal with an inner member formed of a nickel alloy and an outer member formed of an aluminum material or copper (Col. 1 Lines 31-35).

The selection of a known material based upon its suitability for the intended use is a design consideration within the level of skill of one skilled in the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the same materials, as taught by Villepoix, into a seal as described by McNenny, in order to use the different material characteristics to improve the seal.

13. **Claim 24 is rejected** under 35 U.S.C. 103(a) as being unpatentable over FR 610,973 to Barbarou in view of US Pat No 4,561,662 to Villepoix et al (Villepoix).

Barbarou fails to disclose that the inner member is formed of a nickel alloy and the outer member is formed of an aluminum material or copper. Barbarou discloses that they are made of metal.

Villepoix teaches that is known in the art to have a seal with an inner member formed of a nickel alloy and an outer member formed of an aluminum material or copper (Col. 1 Lines 31-35).

The selection of a known material based upon its suitability for the intended use is a design consideration within the level of skill of one skilled in the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the same materials, as taught by Villepoix, into a seal as described by Barbarou, in order to use the different material characteristics to improve the seal.

14. **Claim 24 is rejected** under 35 U.S.C. 103(a) as being unpatentable over US Pat No 3,188,100 to Delgado in view of FR 610,973 to Barbarou and further in view of US Pat No 4,561,662 to Villepoix et al (Villepoix).

Delgado, as modified by Barbarou, fails to disclose that the inner member is formed of a nickel alloy and the outer member is formed of an aluminum material or copper. Delgado discloses that they are made of metal.

Villepoix teaches that is known in the art to have a seal with an inner member formed of a nickel alloy and an outer member formed of an aluminum material or copper (Col. 1 Lines 31-35).

The selection of a known material based upon its suitability for the intended use is a design consideration within the level of skill of one skilled in the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the same materials, as taught by Villepoix, into a seal as described by Delgado, as modified by Barbarou, in order to use the different material characteristics to improve the seal.

15. **Claims 28,34,38 and 39 are rejected** under 35 U.S.C. 103(a) as being unpatentable over US Pat No 3,188,100 to Delgado in view of US Pat No 4,561,662 to Villepoix et al (Villepoix).

Delgado fails to disclose that the inner member is formed of a nickel alloy and the outer member is formed of an aluminum material or copper. Delgado discloses that they are made of metal.

Villepoix teaches that is known in the art to have a seal with an inner member formed of a nickel alloy and an outer member formed of an aluminum material or copper (Col. 1 Lines 31-35).

The selection of a known material based upon its suitability for the intended use is a design consideration within the level of skill of one skilled in the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the same materials, as taught by Villepoix, into a seal as described by Delgado, in order to use the different material characteristics to improve the seal.

16. **Claims 30-34 and 37 are rejected** under 35 U.S.C. 103(a) as being unpatentable over US Pat No 4,561,662 to de Villepoix et al (Villepoix) in view of US Pat No 6,357,759 to Azuma et al (Azuma).

Regarding claims 30 and 32, Villepoix discloses a seal comprising an outer metallic annular member (16), having a generally c-shaped longitudinal radial cross

section, and an inner metallic annular member (14), also having a generally c-shaped longitudinal radial cross section.

The outer metallic annular member has a pair of oppositely directed, longitudinally outward projecting ridges (20) for deformable engaging the pair of opposing flanges. However, Villepoix fails to disclose that the ridges are flat lapped ridges.

Azuma teaches that is known in the art to have a seal (2) with an outer member with flat lapped ridges (25).

A change in the shape of a prior art device is a design consideration within the level of skill of one skilled in the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have flat lapped ridges, as taught by Azuma, into a device as described by Villepoix, in order to secure the outer member with the first and second flanges.

As to claim 31, Villepoix illustrates that the outer metallic annular member is thicker along the ridges.

As to claims 33 and 37, Villepoix fails to disclose that the inner metallic annular member has a characteristic thickness of between about 2 and 4 times a characteristic thickness of the outer metallic annular member.

Azuma teaches that is known in the art to have an inner metallic annular member with a characteristic thickness of between about 2 and 4 times a characteristic thickness of an outer metallic annular member (Figure 3).

A change in the size of a prior art device is a design consideration within the skill of the art. In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a difference in thickness, as taught by Azuma, into a device as described by Villepoix, in order to help in the sealing of the outer metallic annular member with the first and second flanges.

As to claim 34, Villepoix discloses that the inner member is formed of a nickel alloy and the outer member is formed of an aluminum material or copper (Col. 1 Lines 31-35).

17. **Claims 30-33 are rejected** under 35 U.S.C. 103(a) as being unpatentable over US Pat No 5,022,663 to Fages et al (Fages) in view of US Pat No 6,357,759 to Azuma et al (Azuma).

Regarding claims 30 and 32, Fages discloses a seal comprising an outer metallic annular member (20), having a generally c-shaped longitudinal radial cross section, and an inner metallic annular member (14), also having a generally c-shaped longitudinal radial cross section.

The outer metallic annular member has a pair of oppositely directed, longitudinally outward projecting ridges (18) for deformable engaging the pair of

opposing flanges. However, Fages fails to disclose that the ridges are flat lapped ridges.

Azuma teaches that is known in the art to have a seal (2) with an outer member with flat lapped ridges (25).

A change in the shape of a prior art device is a design consideration within the level of skill of one skilled in the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have flat lapped ridges, as taught by Azuma, into a device as described by Fages, in order to secure the outer member with the first and second flanges.

As to claim 31, Fages illustrates that the outer metallic annular member is thicker along the ridges.

As to claim 33, Fages illustrates that the inner metallic annular member has a characteristic thickness of between about 2 and 4 times a characteristic thickness of the outer metallic annular member (Figure 1).

18. **Claims 34 and 38 are rejected** under 35 U.S.C. 103(a) as being unpatentable over US Pat No 5,022,663 to Fages et al (Fages) in view of US Pat No 6,357,759 to Azuma et al (Azuma) and further in view of US Pat No 4,561,662 to de Villepoix et al (Villepoix).

Fages, as modified by Azuma, fails to disclose that that the inner member is formed of a nickel alloy and the outer member is formed of an aluminum material or copper.

Villepoix teaches that is known in the art to have a seal with an inner member formed of a nickel alloy and an outer member formed of an aluminum material or copper (Col. 1 Lines 31-35).

The selection of a known material based upon its suitability for the intended use is a design consideration within the level of skill of one skilled in the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the same materials, as taught by Villepoix, into a seal as described by Fages, as modified by Azuma, in order to use the different material characteristics to improve the seal.

19. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 4,561,662 to Villepoix et al (Villepoix) in view of FR Pat No 610,973 to Barbarou.

Villepoix fails to disclose that the inner member has a full plating of a copper-base material.

Barbarou teaches that is known in the art to have a seal with the inner member having a full plating of a copper-base material (Lines 33-39).

The selection of a known material based upon its suitability for the intended use is a design consideration within the level of skill of one skilled in the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the same materials, as taught by Barbarou, into a seal as described by Villepoix, in order to use the different material characteristics to improve the seal.

20. **Claim 39 is rejected** under 35 U.S.C. 103(a) as being unpatentable over US Pat No 5,022,663 to Fages et al (Fages) in view of FR Pat No 610,973 to Barbarou.

Fages fails to disclose that the inner member has a full plating of a copper-base material.

Barbarou teaches that is known in the art to have a seal with the inner member having a full plating of a copper-base material (Lines 33-39).

The selection of a known material based upon its suitability for the intended use is a design consideration within the level of skill of one skilled in the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the same materials, as taught by Barbarou, into a seal as described by Fages, in order to use the different material characteristics to improve the seal.

21. **Claims 40-42 are rejected** under 35 U.S.C. 103(a) as being unpatentable over US Pat No 3,272,521 to McNenny in view of US Pat No 4,218,067 to Halling.

McNenny fails to disclose a method of manufacturing the seal using welding, die forming and rolling methods.

Halling teaches that is known in the art to use a method to manufacture a seal using welding, die forming and rolling methods (Col. 2 Lines 40-48).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a manufacturing method, as taught by Halling, into a device as described by McNenny, in order to create the seal.

22. Claims 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over FR 610,973 to Barbarou in view of US Pat No 4,218,067 to Halling.

Barbarou fails to disclose a method of manufacturing the seal using welding, die forming and rolling methods.

Halling teaches that is known in the art to use a method to manufacture a seal using welding, die forming and rolling methods (Col. 2 Lines 40-48).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a manufacturing method, as taught by Halling, into a device as described by Barbarou, in order to create the seal.

23. Claims 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 3,188,100 to Delgado in view of US Pat No 4,218,067 to Halling.

Delgado fails to disclose a method of manufacturing the seal using welding, die forming and rolling methods. Delgado discloses that the seal is machined.

Halling teaches that is known in the art to use a method to manufacture a seal using welding, die forming and rolling methods (Col. 2 Lines 40-48).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a manufacturing method, as taught by Halling, into a device as described by Delgado, in order to create the seal.

24. Claims 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 3,188,100 to Delgado in view of FR 610,973 to Barbarou and further in view of US Pat No 4,218,067 to Halling.

Delgado, as modified by Barbarou, fails to disclose a method of manufacturing the seal using welding, die forming and rolling methods. Delgado discloses that the seal is machined.

Halling teaches that is known in the art to use a method to manufacture a seal using welding, die forming and rolling methods (Col. 2 Lines 40-48).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a manufacturing method, as taught by Halling, into a device as described by Delgado, as modified by Barbarou, in order to create the seal.

25. Claims 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 4,561,662 to Villepoix et al (Villepoix) in view of US Pat No 4,218,067 to Halling.

Villepoix fails to disclose a method of manufacturing the seal using welding, die forming and rolling methods.

Halling teaches that is known in the art to use a method to manufacture a seal using welding, die forming and rolling methods (Col. 2 Lines 40-48).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a manufacturing method, as taught by Halling, into a device as described by Villepoix, in order to create the seal.

26. **Claims 40-42 are rejected** under 35 U.S.C. 103(a) as being unpatentable over US Pat No 5,022,663 to Fages et al (Fages) in view of US Pat No 4,218,067 to Halling.

Fages fails to disclose a method of manufacturing the seal using welding, die forming and rolling methods.

Halling teaches that is known in the art to use a method to manufacture a seal using welding, die forming and rolling methods (Col. 2 Lines 40-48).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a manufacturing method, as taught by Halling, into a device as described by Fages, in order to create the seal.

Response to Arguments

27. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lugo whose telephone number is 703-305-9747. The examiner can normally be reached on 9-6pm EST.

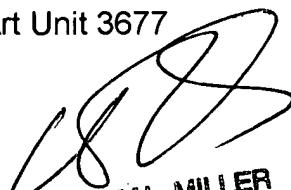
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on 703-306-4115. The fax phone number

for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5771.

Carlos Lugo
Examiner
Art Unit 3677

January 13, 2004.



WILLIAM L. MILLER
PRIMARY EXAMINER